

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
24 March 2005 (24.03.2005)

PCT

(10) International Publication Number  
**WO 2005/026665 A3**

(51) International Patent Classification<sup>7</sup>: **G01F 1/708**,  
1/56, 1/64, B01L 3/00

(21) International Application Number:  
PCT/EP2004/010733

(22) International Filing Date:  
15 September 2004 (15.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/503,616 15 September 2003 (15.09.2003) US

(71) Applicant (for all designated States except US): **DIAG-  
NOSWISS S.A.** [CH/CH]; Rte de l'Île-au-Bois 2, c/o Cimo  
S.A., Case Postale, CH-1870 Monthey (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ROSSIER, Joël  
Stephane** [CH/CH]; Ch. des Ravines 13, CH-1895

Vionnaz (CH). **MORIER, Patrick** [CH/CH]; Ch. des  
Baisemens 7, CH-1807 Blonay (CH). **REYMOND,  
Frédéric** [CH/CH]; Rte de Corsy 23, CH-1093 La Con-  
version (CH).

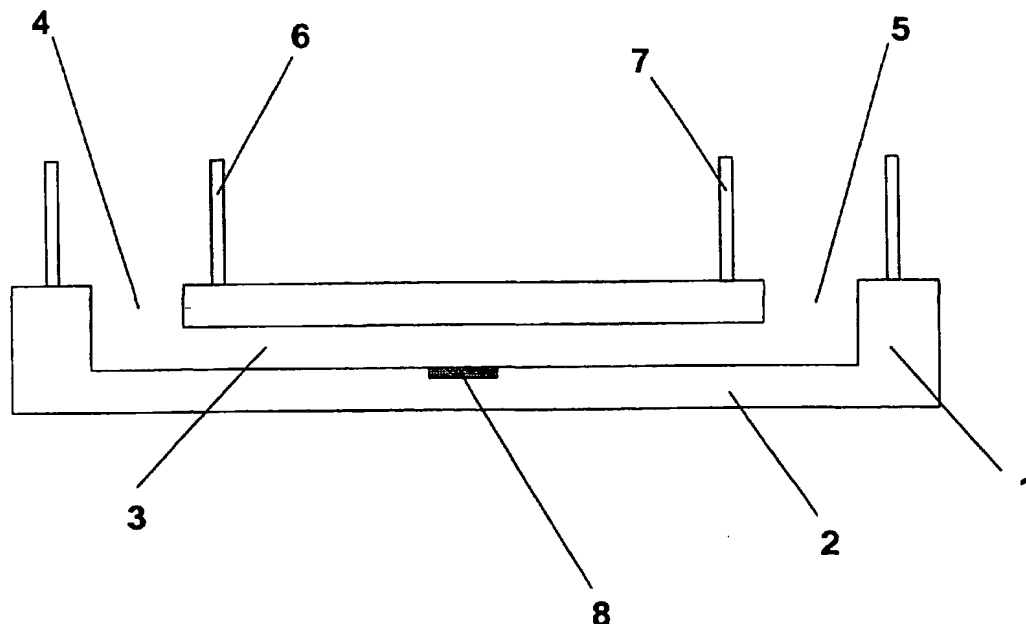
(74) Agent: **HANSON, William, Bennett**; Bromhead John-  
son, Kingsbourne House, 229-231 High Holborn, London  
WC1V 7DP (GB).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: MICROFLUIDIC FLOW MONITORING DEVICE



(57) Abstract: An electrochemical flow monitoring device comprises a microfluidic system comprising at least one covered microchannel (3) having an inlet (4) and an outlet (5). A pressure difference is applied between the inlet and the outlet of the microfluidic system, for example by changing the relative heights of the inlet (4) and outlet (5), such as to generate a flow of solution within the microchannel (3). The microfluidic system has at least one electrode (8) for monitoring said flow of solution by measuring an electrochemical property of said solution.

WO 2005/026665 A3



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments*

**Declaration under Rule 4.17:**

— *of inventorship (Rule 4.17(iv)) for US only*

**Published:**

— *with international search report*

**(88) Date of publication of the international search report:**  
16 June 2005

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*